Journal of the Physical Society of Japan 2014 vol.83 N6

Antiferromagnetism in iron-based superconductors: Selection of magnetic order and quasiparticle interference

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Abstract

© 2014 The Physical Society of Japan. The recent discovery of superconductivity in the iron-based layered pnictides with Tc ranging between 26 and 56K generated enormous interest in the physics of these materials. Here, we review some of the peculiarities of the antiferromagnetic order in the iron pnictides, including the selection of the stripe magnetic order and the formation of the Ising-nematic state in the unfolded BZ within an itinerant description. In addition we analyze the properties of the quasiparticle interference spectrum in the parent antiferromagnetic phase.

http://dx.doi.org/10.7566/JPSJ.83.061015